

The Case for GMO Labeling

Fact Sheet • January 2015

Genetically engineered (GMO) crops are created by transferring genetic material from one organism into another to create specific traits, such as resistance to treatment with herbicides or to make a plant produce its own pesticide to repel insects.¹ Unlike traditional plant and animal breeding, which tries to develop better varieties by selecting traits from the same species, genetic engineering techniques can insert specific genes from any plant, animal or microorganism into the DNA of a different species.

The first GMO crops became commercially available in the United States in 1996, and now GMO varieties constitute the vast majority of corn, cotton and soybean crops grown in the country.² At this point, most GMO food crops are genetically engineered to produce a soil bacterium called *Bacillus thuringiensis* (Bt) that repels insects, or to allow the crop to withstand treatment with an herbicide, like glyphosate (often sold as Roundup).³ More recently, biotechnology firms have developed genetically engineered animals, including food animals such as hogs and salmon.⁴

Proponents of the technology contend that these alterations are improvements because they add desirable traits. Yet companies submit their own safety-testing data, and independent research on GMO foods is limited because biotechnology companies prohibit cultivation for research purposes in the restrictive licensing agreements that control the use of these patented seeds.⁵

Some of the independent, peer-reviewed research that has been done on biotech crops has revealed troubling health implications including deterioration of liver and kidney function and impaired embryonic development.⁷ However, the Food and Drug Administration (FDA) has no way to track adverse health

effects in people consuming GMO foods, and because there is no requirement that foods containing GMO ingredients be labeled,⁸ consumers do not know when they are eating them.

The FDA does not require the labeling of GMO food products as such because the agency views GMO foods as no different from conventional foods. The FDA does permit voluntary GMO labeling as long as the information is not false or misleading.⁹ Food manufacturers are allowed to affirmatively label GMO food or indicate that the food item does not contain GMO ingredients (known as “absence labeling”). But virtually no companies disclose that they are using GMO ingredients under this voluntary scheme. This means that consumers in the United States regularly consume foods that contain GMO ingredients without knowing it.¹⁰

For consumers to have the opportunity to make informed choices about their food, all GMO foods should be labeled. A 2010 Consumers Union poll found that 95 percent of U.S. consumers favor mandatory labeling of meat and milk from GMO animals.¹⁶ A 2013 New York Times poll found that 93 percent of respondents were in favor of a mandatory label for genetically engineered food.¹⁷

Labeling GMO foods is not a novel idea. The European Union specifically addresses the new properties and risks of biotech crops and evaluates the safety of every GMO crop.¹⁸ Additionally, the EU requires all foods, animal feeds and processed products with biotech content to bear GMO labels.¹⁹ Australia, Brazil, China, Japan, New Zealand, Russia, and Saudi Arabia are among at least 60 countries that require some labeling on GMO foods.²⁰

Major Commercially Available GE Crops⁶:

- alfalfa
- canola
- corn
- cotton
- papaya
- soy
- squash
- sugar beet
- sweet corn

Hidden GMO Foods in Our Food Supply

Perhaps one of the reasons there is no requirement that GMO food be labeled is that food companies do not want consumers to know exactly how much GMO content there already is on supermarket shelves. Since most corn, cotton and soybeans are now genetically engineered, it can be assumed that ingredients made from these crops contain GMO content. For example, corn starch, corn meal, corn syrup, glucose, dextrose, canola oil, cottonseed oil, soy oil, soy flour, soy lecithin and "protein extracts" — present in many processed foods — are all likely derived from GMO crops.¹¹ Since the partial approval of Roundup Ready sugar beets, 95 percent of sugar beets grown in the United States are genetically engineered, so products containing sugar made from beets are most likely GMO foods.¹²

Other foods with "hidden" GMO content are dairy products like milk and cheese that came from cows treated with rBGH, a GMO growth hormone.¹³ Most feed consumed by livestock consists of GMO grains and grasses¹⁴ — like Roundup Ready soybeans, corn and alfalfa — so dairy products and meat from these animals are considered GMO foods as well.

Also, GMO potatoes, sweet corn, papayas and virus-resistant squash have been commercialized¹⁵ and may be sold in supermarkets without a label.

Certified organic foods cannot be genetically engineered or contain GMO ingredients.

Without an affirmative label on foods containing GMO ingredients, the only way for consumers to avoid GMO foods is to buy organic. The USDA National Organic Program prohibits the use of GMO material in any product that carries the "certified organic" label.²¹

It took government regulation to make food processors put ingredient lists and nutrition facts on food packaging — labels that consumers are now accustomed to seeing and are using to make food choices. But the government has failed to require that consumers get to know other basic information about our food, like that it is genetically engineered.

Tell your state and federal lawmakers you want mandatory labeling of genetically engineered foods.

For more information: <http://www.foodandwaterwatch.org/food/genetically-engineered-foods/>

Endnotes

- 1 Shoemaker, Robbin (Ed.). U.S. Department of Agriculture (USDA). Economic Research Service (ERS). "Economic Issues in Agricultural Biotechnology." AIB-762. 2001 at 9.
- 2 USDA ERS. "Adoption of Genetically Engineered Crops in the U.S." Available at <http://www.ers.usda.gov/data-products/adoption-of-genetically-engineered-crops-in-the-us.aspx>. Updated July 14, 2014. Accessed December 17, 2014.
- 3 Fernandez-Cornejo, Jorge. USDA ERS. "The Seed Industry in U.S. Agriculture." AIB-786. January 2004 at 2.
- 4 University of Guelph. "Enviropig™" Available at <http://www.uoguelph.ca/enviropig/> and on file. Accessed March 3, 2011; AquaBounty Technologies. "Press Room." Available at <http://www.aquabounty.com/PressRoom/>. Accessed February 8, 2011.
- 5 Pollack, Andrew. "Crop Scientists Say Biotechnology Seed Companies Are Thwarting Research." *The New York Times*. February 20, 2009.
- 6 Cowan, Tadlock. Congressional Research Service. "Agricultural Biotechnology: Background and Recent Issues." June 18, 2011 at 2.
- 7 de Vendomois, Joel Spiroux et al. "A Comparison of the Effects of Three GM Corn Varieties on Mammalian Health." *International Journal of Biological Sciences*, vol. 5, iss. 7. 2009 at 716 to 718; Malatesta, Manuela et al. "Ultrastructural Morphometrical and Immunocytochemical Analyses of Hepatocyte Nuclei from Mice Fed on Genetically Modified Soybean." *Cell Structure and Function*, vol. 27. 2002 at Abstract; Cisterna, B. et al. "Can a genetically-modified organism-containing diet influence embryo development? A preliminary study on pre-implantation mouse embryos." *European Journal of Histochemistry*. 2008 at 263; Agodi, Antonella et al. "Detection of genetically modified DNA sequences in milk from the Italian market." *International Journal of Hygiene and Environmental Health*. January 10, 2006 at Abstract; Mesnage, R. et al. "Cytotoxicity on human cells of Cry1Ab and Cry1Ac Bt insecticidal toxins alone or with a glyphosate-based herbicide." *Journal of Applied Toxicology*. 2012 at Abstract.
- 8 Fernandez-Cornejo, Jorge and Margriet Caswell. USDA ERS. "The First Decade of Genetically Engineered Crops in the United States." EIB No. 11. April 2006 at 3.
- 9 U.S. Food and Drug Administration. Guidance for Industry: Voluntary Labeling Indicating Whether Foods Have or Have Not Been Developed Using Bioengineering; Draft Guidance. 2001. Available at <http://www.fda.gov/Food/GuidanceComplianceRegulatoryInformation/GuidanceDocuments/FoodLabelingNutrition/ucm059098.htm>. Accessed December 15, 2010.
- 10 Fernandez-Cornejo and Caswell (2006) at 1.
- 11 Cowan, Tadlock. Congressional Research Service. "Agricultural Biotechnology: Background and Recent Issues." June 18, 2011 at 6; USDA ERS. NEW Feed Grains Data: Yearbook Tables, Corn: Food, seed, and industrial use. March 15, 2012. Available at <http://www.ers.usda.gov/data/FeedGrains/Table.asp?t=31>. Accessed April 10, 2012.
- 12 Cowan (2011) at 17.
- 13 *Ibid.* at 6.
- 14 USDA, National Resources Conservation Service. "Animal Diets and Feed Management." Nutrient Management Technical Note No. 8. January 2012 at 4.
- 15 Kaskey, Jack. "Monsanto to sell biotech sweet corn for U.S. consumers." Bloomberg. August 4, 2011; Cowan (2011) at 2; Pollack, Andrew. "U.S.D.A. Approves Modified Potato. Next Up: French Fry Fans." *New York Times*. November 7, 2014.
- 16 Consumers Union. "FDA will not require labeling of meat or fish from genetically engineered animals." [Press Release]. January 15, 2009.
- 17 Kopicki, Allison. "Strong Support for Labeling Modified Foods." *New York Times*. July 27, 2013.
- 18 Shoemaker (2001) at 32.
- 19 European Parliament and Council. Regulation (EC) No 1829/2003 at Article 12.2.
- 20 U.S. Trade Representative. "2011 Report on Technical Barriers to Trade." 2011 at 49; Center for Food Safety. "Genetically Engineered Food Labeling Laws." Accessed December 17, 2014. On file and available at <http://www.centerforfoodsafety.org/ge-map/>.
- 21 7 CFR 205.2.

For more information:

web: www.foodandwaterwatch.org

email: info@fwwatch.org

phone: (202) 683-2500 (DC) • (510) 922-0720 (CA)

Copyright © January 2015 Food & Water Watch

